UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R036XB131NM

Site Name: Foothills

Precipitation or Climate Zone: 10 to 16 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs as rolling to steep hills, foot slopes of steep mountains, and side slopes of high mesas. Exposures and soils are variable. Slopes range from 2 to 50 percent. Elevations range from 6,000 to 7,000 feet above sea level. This is a transitional area between the SD-1 and the WP-2 MLRAs.

Land Form:

1. Hillside
2.
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	6,000	7,000
Slope (percent)	2	50
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	N/A	N/A
Duration	N/A	N/A

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

Average annual precipitation varies from about 10 inches to just over 16 inches. Fluctuations ranging from about 5 inches to 25 inches are not uncommon. The overall climate is characterized by cold dry winters in which winter moisture is less than summer. As much as half or more of the annual precipitation can be expected to come during the period of July through September. Thus, fall conditions are often more favorable for good growth of cool-season perennial grasses, shrubs, and forbs than are those of spring.

The average frost-free season is about 120 days and extends from approximately mid May to early or mid September. Average annual air temperatures are 50 degrees F or lower and summer maximums rarely exceed 100 degrees F. Winter minimums typically approach or go below zero. Monthly mean temperatures exceed 70 degrees F for the period of July and August.

Rainfall patterns generally favor warm-season perennial vegetation, while the temperature regime tends to favor cool-season vegetation. This creates a somewhat complex community of plants on any given range site which is quite susceptible to disturbance and is at or near its productive potential only when both the natural warm and cool-season dominants are present.

	Minimum	**Maximum**
Frost-free period (days):	51	171
Freeze-free period (days):	130	252
Mean annual precipitation (inches):	10	16

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.40	.91	12.9	47.0
February	.43	.65	16.6	51.2
March	.47	1.10	20.9	57.1
April	.30	.49	26.1	65.3
May	.46	.98	33.4	74.2
June	.51	.57	41.4	84.2
July	2.15	3.45	50.4	85.1
August	2.28	3.03	48.7	82.4
September	1.29	1.68	41.4	77.9
October	.81	1.12	29.4	69.2
November	.38	.71	19.1	57.3
December	.53	.95	13.1	48.9

Climate Stations:

				Period		
Station ID	290640	Location	Augustine 2E, NM	From: 05/01/26	To:	07/31/00
Station ID	296812	Location	Pietown 19NE, NM	From: 09/01/88	To:	07/31/00
Station ID	297180	Location	Quemado, NM	From: 08/01/15	To:	07/31/00

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:
N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils range from moderately deep to deep. They are derived from, shale and other parent materials other than limestone or sandstone. Surface textures range from sandy loams to clay loams, and the surface is high in amounts of coarse fragments. They are well drained, slowly to moderately permeable, and runoff is slow to moderate.

Parent Material Kind: Mass movement deposits
Parent Material Origin: Mixed

Surface Texture:

1. Sandy loams
2. Clay loams
3. Loam 4. Fine sandy loam 5. Loamy sand 6. Stony loam 7. Silt clay 8. Very cobbly loam 9. Gravelly fine sandy loam 10. Gravelly clay loam 11. Gravelly sandy clay loam

Surface Texture Modifier:

1. Cobble
2. Gravel
3. Stone

Subsurface Texture Group: Loamy

Surface Fragments <=3" (% Cover): 15 to 35

Surface Fragments >3" (% Cover): 35 to 60

Subsurface Fragments <=3" (%Volume): 0 to 37

Subsurface Fragments >=3" (%Volume): 0 to 2

	Minimum	Maximum
Drainage Class:	Well	Excessively
Permeability Class:	Impermeable	Moderately rapid
Depth (inches):	5	>72
Electrical Conductivity (mmhos/cm):	0.00	4.00
Sodium Absorption Ratio:	0.00	5.00
Soil Reaction (1:1 Water):	6.1	9.00
Soil Reaction (0.1M CaCl2):	0.00	0.00
Available Water Capacity (inches):	3	6
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
The potential plant community has a mixed shrub-grassland aspect with scattered oneseed juniper and some pinyon pine trees. The tree component is more prevalent on the cooler, north facing slopes, while shrubs and grasses prevail on the south and west facing slopes. Dominant grasses on the north facing slopes are blue grama, galleta, New Mexico feathergrass and bottlebrush squirreltail. On the south facing slopes black grama, little bluestem, sideoats grama and blue grama are dominant.

*More prevalent on cooler exposure.

Canopy Cover:	
Trees	20 %
Shrubs and half shrubs	20 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	12
Bare ground	33
Surface cobble and stone	45
Litter (percent)	10
Litter (average depth in cm.)	1

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	274	411	548
Forb	11	17	23
Tree/Shrub/Vine	86	129	173
Lichen			
Moss			
Microbiotic Crusts			
Total	375	563	750

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOGR2 BOHI2	Blue Grama* Hairy Grama*	113 – 169	113 – 169
2	PLJA	Galleta	28 – 56	28 – 56
3	BOCU	Sideoats Grama	56 – 113	56 – 113
4	HENE5 HECO26	New Mexico Feathergrass* Needleandthread	28 – 56	28 – 56
5	BOER4	Black Grama	28 – 113	28 – 113
6	MUPO2	Bush Muhly	17 – 39	17 – 39
7	MUPA2 ELEL5	New Mexico Muhly* Bottlebrush Squirreltail*	6 – 28	6 – 28
8	LYPH ARIST SPCR	Wolftail Threeawn spp. Sand Dropseed	6 – 28	6 – 28
9	SCSC	Little Bluestem	28 – 56	28 - 56
10	2GRAM	Other Grasses**	17 – 45	17 - 45

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	2FP	Perennial Forbs	17 – 28	17 – 28
12	2FA	Annual Forbs	6 – 17	6 - 17

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
13	JUMO PIED	Oneseed Juniper Pinyon Pine	28 – 56	28 – 56
14	NOMI	Sacahuista (Nolina)	0 – 113	0 – 113
15	YUCCA	Yucca spp.	6 – 28	6 – 28
16	ATCA2 KRLA	Fourwing Saltbush Winterfat	6 – 28	6 – 28
17	QUERC RHTR GUSA2	Oak spp. Skunkbush Sumac Broom Snakeweed	6 – 28	6 – 28
18	2SD	Other Shrubs	0 – 28	0 - 28

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

** Other grasses that could appear on this site include: Indian ricegrass, spike dropseed, prairie junegrass, cactus spp., and western wheatgrass.

Plant Growth Curves

Growth Curve ID **NM0321**

Growth Curve Name: **HCPC**

Growth Curve Description: **Mixed shrub/grassland with a scattered oneseed juniper and pinyon pine component on cooler, north facing slopes.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	7	10	15	25	25	8	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

No Data

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	Hydrologic Group
Alesna	C
Bamac	A
Espiritu	B
Fragua	B
Mion	D
Pojoaque	B
Poley	C & D
Sedillo	B
Westmion	D

Recreational Uses:

This site is suited to hunting, hiking, horseback riding, and nature observation.

Wood Products:

This site has a limited potential for wood products. Wood product uses include fuelwood, fence posts, and landscape trees.

Other Products:

Grazing:

Approximately 80 percent of the vegetative production on this site are suitable as forage for domestic livestock and wildlife. Where slopes are steep, accessibility may become limited and suggested initial stocking rates need to be adjusted. A decrease in production and/or a change in composition indicate deterioration of the potential plant community due to inadequate management. Plants that decrease include black grama, sideoats grama, little bluestem, New Mexico muhly, cool-season grasses, fourwing saltbush, and winterfat. Plants that increase include blue and hairy grama, galleta, wolftail, dropseed spp., threeawn spp., and undesirable woody species. Because mechanical treatments are seldom justifiable on this site, a planned grazing system with periodic deferment using both browsing and grazing kinds of livestock may be the best means of maintaining a healthy balance of woody and herbaceous vegetation.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	3.9 – 5.2
75 – 51	5.0 – 7.8
50 – 26	7.5 – 15.6
25 – 0	15.6+

Plant Part	Code	Species Preference	Code
Stems	**S**	**None Selected**	**NS**
Leaves	**L**	**Preferred**	**P**
Flowers	**F**	**Desirable**	**D**
Fruits/Seeds	**F/S**	**Undesirable**	**U**
Entire Plant	**EP**	**Not Consumed**	**NC**
Underground Parts	**UP**	**Emergency**	**E**
		Toxic	**T**

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Bush Muhly	Muhlenbergia porteri	EP	P	P	P	P	P	P	P	P	P	P	P	P
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Winterfat	Krascheninnikovia lanata	EP	D	D	P	P	P	P	P	P	D	D	D	D
Fourwing Saltbush	Atriplex canescens	EP	P	P	P	P	P	D	D	D	D	D	D	P

Animal Kind: Wildlife
Animal Type: Deer

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Fourwing Saltbush	Atriplex canescens	EP	P	P	D	D	D	D	D	D	D	D	D	P
Oak spp.	Quercus spp.	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Skunkbush Sumac	Rhus trilobata	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Winterfat	Krascheninnikovia lanata	EP	D	D	D	D	D	D	D	D	D	D	D	D
Perennial Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: **Cibola, Valencia**

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the New Mexico and Arizona Plateaus and Mesas (36) Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: Socorro, Sierra, Grant, Hidalgo, Catron.

Characteristic Soils Are:	
Pojoaque	Silver
Other Soils included are:	
Alesna	Bamac
Espiritu	Fragua
Mion	Poley
Sedillo	Westmion

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	05/08/84	Don Sylvester	05/08/84
Author	Date	Approval	Date
Elizabeth Wright	07/08/02	George Chavez	2/20/03